

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-13. (Canceled)

Claim 14. (Currently Amended)      A centrifugal concentrator for separating particulate material of higher specific gravity from particulate material of lower specific gravity, comprising a) a rotating member adapted for rotation about an axis, (b) material supply means to deliver said particulate material into said rotating member, c) a plurality of cavities for receiving said particulate material of higher specific gravity, extending radially outwardly with respect to the axis of rotation of said rotating member, said cavities each having an outwardly-extending outlet, and d) a flow control valve for controlling the flow of material from said outwardly-extending outlets of said cavities; wherein said flow control valve comprises a fluid inlet communicating with said outwardly-extending outlet, a fluid outlet and a passage communicating therebetween and having a cross-sectional radius in the plane perpendicular to the longitudinal axis of said passage, wherein said passage is radially constrictible from a fully open to a closed condition while maintaining a cross-sectional shape which is substantially circular over a major range of such radial constriction wherein said flow control valve comprises a cylindrical elastomeric valve member disposed within said passage, and an annular elastomeric constrictor element mounted coaxially around said cylindrical elastomeric valve member and having a central thickened region for contacting and constricting said cylindrical elastomeric valve member and wherein said flow control valve further comprises a valve body, said valve body comprising a passageway communicating with a compressed gas supply for supplying gas under pressure to the exterior of said annular elastomeric constrictor element to thereby constrict said passage, and wherein said flow control valve comprises a pressure relief passage extending from the outer surface of said cylindrical elastomeric valve member, at a location axially

inwardly from said annular elastomeric constrictor element, and communicating to the exterior of the valve body.

Claim 15. (Canceled)

Claim 16. (Previously Presented) The centrifugal concentrator of claim 14 wherein said radially constrictible passage of said flow control valve has a cross-sectional shape which is substantially circular over at least half said range of radial constriction of said passage.

Claim 17. (Previously presented) The centrifugal concentrator of claim 14 wherein said radially constrictible passage of said flow controlling means has a maximum dimension in the plane perpendicular to the longitudinal axis of said passage which remains comparable to the dimension of said passage perpendicular to said maximum dimension over a substantial range of radial constriction of said passage.

Claim 18. (Previously Presented) The centrifugal concentrator of claim 14 wherein said radially constrictible passage of said flow control valve has a maximum diameter of at least one-half inch.

Claim 19. (Previously Presented) The centrifugal concentrator of claim 14 wherein said range of radial constriction of said passage is from at least as small as 1/8 inch to at least as great as 1/2 inch.

Claim 20-21. (Canceled)

Claim 22. (Previously Presented) The centrifugal concentrator of claim 14 wherein said annular elastomeric constrictor element is held in a chamber in said valve body and is pre-compressed to fit said chamber.

Claim 23. (Previously Presented) The centrifugal concentrator of claim 14 wherein said passageway communicating with a compressed gas supply for supplying gas under pressure to the exterior of said annular elastomeric constrictor element extends substantially axially within said valve body.

Claim 24. (Previously Presented) The centrifugal concentrator of claim 14 wherein said gas is air.

Claim 25. (Currently Amended) A flow control valve for a centrifugal concentrator for separating particulate material of higher specific gravity from particulate material of lower specific gravity, wherein said centrifugal concentrator comprises a) a rotating member adapted for rotation about an axis, (b) material supply means to deliver said particulate material into said rotating member, and c) a plurality of cavities for receiving said particulate material of higher specific gravity, extending radially outwardly with respect to the axis of rotation of said rotating member, said cavities each having an outwardly-extending outlet; said flow control valve controlling the flow of material from said outwardly-extending outlet; wherein said flow control valve comprises a fluid inlet communicating with said outwardly-extending outlet, a fluid outlet and a passage communicating therebetween and having a cross-sectional radius in the plane perpendicular to the longitudinal axis of said passage, wherein said passage is radially constrictible from a fully open to a closed condition while maintaining a cross-sectional shape which is substantially circular over a major range of such radial constriction and wherein said flow control valve comprises a cylindrical elastomeric valve member disposed within said passage, and an annular elastomeric constrictor element mounted coaxially around said cylindrical elastomeric valve member and having a central thickened region for contacting and constricting said cylindrical elastomeric valve member and wherein said flow control valve further comprises a valve body, and said valve body comprises a passageway communicating with a compressed gas supply for supplying gas under pressure to the exterior of said annular elastomeric constrictor element to thereby constrict said passage, and wherein said flow control valve comprises a pressure relief passage extending from the outer surface of said cylindrical

elastomeric valve member, at a location axially inwardly from said annular elastomeric constrictor element, and communicating to the exterior of the valve body.

Claim 26. (Previously Presented) The flow control valve of claim 25 wherein said radially constrictible passage of said flow control valve has a cross-sectional shape which is substantially circular over at least half said range of radial constriction of said passage.

Claim 27. (Previously Presented) The flow control valve of claim 25 wherein said radially constrictible passage of said flow control valve has a maximum dimension in the plane perpendicular to the longitudinal axis of said passage which remains comparable to the dimension of said passage perpendicular to said maximum dimension over a substantial range of radial constriction of said passage.

Claim 28. (Previously Presented) The flow control valve of claim 25 wherein said radially constrictible passage of said flow control valve has a maximum diameter of at least one-half inch.

Claim 29. (Previously Presented) The flow control valve of claim 25 wherein said range of radial constriction of said passage is from at least as small as 1/8 inch to at least as great as 1/2 inch.

Claim 30. (Canceled)

Claim 31. (Previously Presented) The flow control valve of claim 25 wherein said annular elastomeric constrictor element is held in a chamber in said valve body and is pre-compressed to fit said chamber.

Claim 32. (Previously Presented) The flow control valve of claim 25 wherein said passageway communicating with a compressed gas supply for supplying gas under pressure

to the exterior of said annular elastomeric constrictor element extends substantially axially within said valve body.

Claim 33. (Previously Presented) The flow control valve of claim 25 wherein said gas is air.